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ABSTRACT

The purposes of this paper are to explore and present various opinions concerning the nature of functional literacy and the questions involved in assessing the extent to which one is or is not functionally literate, and to describe one instrument designed to measure functional literacy. The major sections of the paper provide information on the following topics: the definition of functional literacy/competency, how to test for functional literacy, what do to with the results of such tests, national and state efforts at functional literacy testing, and local efforts, including the development of an instrument by one school district that would measure and reflect the kinds of skills employers expect from employees in one geographic area. (FL)

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SAN ANTONIO INDEPENDENT SCHOOL DISTRICT FUNCTIONAL LITERACY EXAMINATION/CRITERION REFERENCED TEST

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Functional Literacy: The Definition, Need for Measurement and Local Efforts

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Functional Literacy: The Definition, Need for Measurement and Local Efforts

The definition of functional literacy varies with the user. Attempts to develop a functional literacy exam must begin with the determination of the meaning for the particular intended user. This paper includes a review of the literature and a discussion of current efforts to develop background and identify factors relevant to measuring functional literacy. Definitions by Mack (1976), Bohla (1969), Bormuth (1974), Northcutt (1975) and others are considered. Definition ranges from a set of skills specific to a location to the ability to respond to written language, with Bohla (1969) broadly contending that functional literacy relates to economic, social, and political aspirations. Efforts to measure functional literacy ultimately define the term for the user and the intended audience.

A large, urban school district concerned about the facility of its graduates to satisfactorily cope in the market place has been developing such an instrument, with the items on this instrument being focused on application of the objectives to settings in which the graduates of this district are most likely to function. This paper includes a discussion of and a rationale for the table of specifications developed for this exam as well as examples of specific items.

Initial versions of the test have been field tested using subjects with different levels of education. During Spring, 1980, tests will be further validated by administering the test to employees of differing crafts. These results will be analyzed with emphasis on the congruence between the school district's basic skills objectives and the basic skills that functioning adults in the community at large possess.

FUNCTIONAL LITERACY: AN OVERVIEW

The term "literacy" itself holds many definitions and connotations for various individuals. Compound this problem by adding to it the fact that "literacy", "functional literacy", and "competency" are generally used interchangeably within the related literature, and an attempt to establish a single, universal definition becomes difficult, if not impossible. Definitions and delineations tend to vary with each new author. The purpose of this paper is to explore and present various opinions held concerning the nature of functional literacy and the many questions involved in assessing the extent to which one is or is not functionally literate and to describe what one school district has done concerning the literacy issue.

WHAT IS FUNCTIONAL LITERACY/COMPETENCY?

It is generally held that literacy or competency is situational, i.e., it changes with the situation. Usually a person is considered literate if he can respond to whatever daily reading tasks he faces. Mack (1976) holds that literacy is not a solidary trait, but one which is comprised of many sub-traits and skills, and one which varies from location to location. How many comprehension skills are required by the materials one needs to read? Are these skills the same for all materials in all situations, or is one literate only with respect to a particular situation? A sufficient level of literacy for today may not be sufficient for the future. As the world progresses toward greater heights and a more technical society, the task of reading becomes increasingly complicated. Block (1978) entertains the notion that those competencies which are necessary for adulthood today may be unnecessary tomorrow. Bormuth (1974) defines reading literacy as the ability to respond appropriately to written language. Yet, the

term "functional literacy" connotes reading for a purpose, somehow related to social utility.

Bohla (1969) contends that "functional literacy" promises to relate literacy to economic, social, and political aspirations. Functional literacy is defined by Kelly (1974) as "the ability to recognize and comprehend words and phrases directly affecting basic personal experiences" (p. 363). Northcutt (1975) holds that functional literacy is the ability to use skills and knowledge with the functional competence needed for meeting the requirements of adult living. Thus, functional competence becomes a construct meaningful only in a specific societal context, bound by the technological state of that particular society. One considered functionally competent in one society may well be incompetent in another--the requirements for competency change with the situation. As Bormuth (1974) points out, a person's literacy is determined by both his reading ability and by the readability of the materials to which he must attend. Thus, competency is dependent upon both individual capabilities and the requirements of the society or the situation.

An individual must adapt to each new situation or to any change in his society. If he does not, then he becomes less competent. Northcutt (1975) holds that functional competency is directly related to success in adult life, the index of success being a composite of income, level of education, and occupational status. Block (1978) states that competency reflects an individual's capacity to effect demands on his environment and to interact effectively in "certain socially ascribed, certain self-selected, and certain self-developed environments." He contends that if one is competent, he can manipulate his environment with body and mind. He holds that there is public distress that a minority have been trained in incompetence which leaves them unable to benefit from available opportunities (p. 13). Finally, Glass (1978) holds that no one

can determine mastery or competence in a satisfactory way, and that no one knows how well a person must read to succeed in life.

Functional literacy/competency, then, retains no single true definition. The Education Commission of the States (see Gadway, 1976) holds that "functional literacy" is an abstract term without standards, which can have almost any meaning. Any definition of functional literacy must be specifically designed and delineated for whatever purpose it is to be used.

The extent of literacy/illiteracy varies, dependent on the method of assessment. The Bureau of the Census defines functional illiterates as those 14 years of age or over who have not completed six years of school. Bormuth (1974) points out that six years of schooling does not assure literacy. The wide variety of reading abilities within any grade level supports his contention. Lichtman (1973) states that, traditionally, a person was considered functionally literate if he scored anywhere from fifth to eighth grade level on a standardized reading achievement test. Mack (1976) holds that, in the U.S., the minimum level of reading ability required for full participation in the social and economic life of the nation appears to be around the eleventh grade level. Sticht (1974) states that many adults "cannot read and use with facility much of the written materials needed to function well in our society" (p. 3). He points out that more than one half of the materials in several different U.S. Army career fields were on the eleventh or twelfth grade reading level. It is held by Northcutt (1975) that 20% of U.S. adults function with difficulty, while Mack (1976) asserts that more than 50% of the U.S. adult population is considered either functionally illiterate or marginally illiterate, i.e., they do not have the educational tools to cope with personal, community, social and economic problems that confront them daily. It is obvious from these reports that the extent of literacy varies, dependent upon the method of assessment.

Need for Assessment

If there are, indeed, such large number of illiterates in the U.S., what or who is to blame? The vicious finger of guilt is generally aimed at education. Most of the goals of the American people require education as a means of reaching them, and certainly education represents a means of upward mobility to the American people. Bormuth (1974) claims that if there are large numbers of illiterates, then educational institutions have failed to achieve the aim that all men should have equal opportunity to develop and attain their ambitions. Bohla (1969) contends that functional literacy plans must be integrated with educational plans. Findley (1978) points out that district patrons have occasionally voiced concern about writing skills of students, but no effort has ever been made to force the school districts to establish competence requirements. It is the contention of Sticht (1974) that there is a contrast between the teaching of reading and writing in schools and the kinds of reading and writing done in the world outside the school, which is functional work-oriented reading and writing. In 1958, Denver began a basic skills test, when the schools polled employers and found dissatisfaction with graduates. The National Association of Secondary School Principals (1976) believe that citizens want measurable results for the educational dollars spent.

Assessment of the educational progress is necessary to identify the critical problems of education, and to make intelligent decisions to produce maximum results (Tyler, 1974). Ahmann (1976) states that, currently, opinions about the quality of education are based on "vague general impressions and a scattering of first hand experiences" (p. 6). These opinions and impressions are surely no basis on which to make decisions.

The literature indicates a need for definite information and data concerning the achievement and competency abilities of the American youth. Information

should be sought concerning his activities in the home and among his peers, in addition to that concerning his work and other accomplishments and activities within the community. To rally the support necessary to remedy the problems requires evidence. Ahmann (1976) holds that the true goal of an assessment is to be able to draw inferences about the degree to which educational objectives have been achieved. This information can indicate strengths and weaknesses upon which the educational program can be based. Thus, a need for functional literacy/competency testing is demonstrated.

HOW DO WE TEST FOR FUNCTIONAL LITERACY?

Cawelti (1978) reports that national concern over educational quality has been fueled by the reported decline in nationally administered tests. Yet, declines in some test scores should not justify blanket indictment of public education.

What, then, are the appropriate tests for competencies? Can previously developed standardized tests be used to achieve the same results? Nathan (1978) reports that "numerous studies indicate virtually no correlation between high scores on any type of standardized paper-and-pencil test and adult success." He holds that a score on such a test is "a poor substitute for the real thing: performance at life's tasks." (p. 622), yet the National Association of Secondary School Principals (1976) holds that competence may be measured by paper-and-pencil tests as well as by other means. Bormuth (1974) points out that it is economically and logically desirable to use verbal questions as the primary mode of testing literacy behaviors.

Lichtman (1973) holds that, although no firm definition of functional literacy has yet been agreed upon, the general emphasis is on the performance of reading tasks directly related to practical real life experiences. Since the

format of standardized tests usually includes short paragraphs of interest to elementary school age children but not practical reading tasks, Lichtman holds that standardized tests are not really suitable to the measurement of functional literacy with adults and minority groups. The author states that "in literacy assessment, the question to be asked is whether or not an individual has mastered a sufficient amount of reading tasks which are representative of functional literacy" (p. 8). Therefore, the content must be representative of activities which could be considered directly related to practical life reading experiences, suitable to adolescents and adults. Bormuth (1974) asserts that, when using standardized tests, we must operationalize the processes using test items that differ in many respects from the real-world reading tasks, and then infer a level of performance that permits the claim that a student would perform competently on the real-world task.

McClelland (1973) refers to standardized testing as the "word-game skills" that keep the best education for those who are already doing well at the game, and that do not necessarily assess the competencies involved in clusters of life outcomes and communication skills. Rimland (1972) entertains the notion that typical mental tests do not predict job performance well at all, but that job performance may involve a rather different type of intelligence than the academic type measured by most present instruments. Tyler (1974) holds that the standardized tests in common use do not give a dependable measure of what a child has learned, but provide information about where the child stands in relation to the norm group. These tests are designed by a procedure that seeks to maximize the correlation between test scores and grades. A person's competence is not dependent upon the performance of his peers, therefore, nationally normed

tests rather than those based upon local norms will not necessarily indicate how well a person will perform in local real-world situations. Airasian (1974) points out that, if the criterion behaviors are important, teachers should be concerned with whether the student has achieved them, not how much he achieved relative to his peers. In using a norm-referenced appraisal, a student's performance will differ according to the make-up of the norm group. This must imply an alternative method of measurement. Finally, Drenth (1972) maintains that a test is validated with respect to a certain population, and thus can only be used for decisions concerning the population for which it has been verified and validated. Use for other populations is unsupported. This is not to say that intelligence or standardized achievement tests are invalid, but only that their validity is limited to situations.

Objectives and Format

What should be included in a functional literacy test, if current standardized tests are not adequate for the testing of competency? Individual researchers must first delineate their definition of functional literacy, and secondly, they must identify adult needs and general knowledge areas that are the content of adult literacy. Northcutt (1975) holds that the four primary skills are: (1) communication skills (including reading, writing, speaking, listening), (2) computation skills, (3) problem solving skills, and (4) interpersonal relations skills. Skellings (1977) asserts that functional literacy test items should represent reading skills required in daily life. The discussions maintaining concern for representation of the real-world skills have already been presented.

Each study or pilot program will, obviously, choose objectives according to the information needed by the researchers and what the test developers hold to be the necessary skills. (This author will make no attempt to discuss the many and

varied objectives listed by those who have already attempted to assess functional literacy. See bibliography for sources). The National Association of Secondary School Principals (1976) postulates that the objectives to be achieved and the tests to measure the objectives sought can be developed locally with success. Assuming these tests are to be used with students, the roles or careers the students might undertake upon graduation and the competencies necessary to these roles must be determined. Researchers must first develop a set of statements that describe the kinds of behaviors a person must be able to exhibit in order to be classified as functionally literate. Certainly, people differ in the kinds of occupational choices they make, and the types of activities in which they engage. Each should involve different amounts and kinds of reading. For this reason, Bormuth (1974) contends the the commonness of the task must be considered, that is, the degree to which all people must deal with the task. Only those tasks common to all should be included in the definition of basic literacy.

Once objectives for the instrument have been decided upon, the developers must next determine the best way to test for the degree to which these objectives have been achieved. According to the National Association of Secondary School Principals (1976), "the critical element of a performance test is its authenticity. Good performance tests are congruent with the tasks of life" (p. 3). It is contended by Lichtman (1973) that a functional literacy test must present a representation which approximates the form in which the reader is likely to encounter the material. This format should provide a more accurate picture of the reader's true performance because it represents a more accurate approximation of the actual task. The same author holds that the items should actually be as close in appearance to the actual material as possible. "Face validity may have considerable... influence toward interpreting the meaningfulness in the assessment of functional literacy" (p. 6).

In a nation-wide survey to determine the percentage of Americans lacking skills necessary to survive, Harris and Associates (1970) included five forms commonly used in the U.S. (Social Security, Bank loan, Public Assistance, Medicaid, Driver's license). The investigators believe that these forms reflect the practical reading ability essential for survival, somewhat different from the theoretical reading skills stressed in many schools. (The study revealed that 4.3 million Americans tested answered less than 70% of the items correctly, or were considered "low survival threshold." See p. 10 for further definition.)

When the National Assessment of Educational Progress (NAEP) undertook their Mini-Assessment of Functional Literacy (MAFL) in 1974 and 1975, Ahmann (1976) related that:

> "questions were selected to present the formats of reading materials we frequently encounter in everyday life and with which we must be able to cope to function adequately. The reading materials employed are passages such as a newspaper article, stories, and poems; common reference materials used when one seeks information; and graphic materials...questions about such things as a telephone bill, traffic ticket, and an excerpt from an insurance policy" (p. 26).

According to Northcutt (1975), performance indicators are "small simulations" of what is demanded of the adult by society.

Standard Setting

When functional literacy has been defined, objectives developed and format decisions made, the next problem to be faced is the setting of standards. Unfortunately, scores on the instrument will not fall into two very neat divisions---functionally literate and illiterate. A decision concerning where on the continuum to place the benchmark of competency must be made. Findley (1978) asserts that passing scores are arbitrary. Educators and researchers set the standards based on experience and research. Nathan (1978) questions that the schools may be establishing some kind of guarantee if students are certified as competent.

Several researchers in the field have chosen not to consider competency testing as a pass/fail situation. Northcutt (1975) set three levels of competency: (1) adults who function with difficulty, (2) functional adults, and (3) proficient adults. Based on division of scores Harris and Associates (1970) set four levels of literacy, from the Likely Survival Threshold (those considered fully literate) to Low Survival Threshold (those considered functionally illiterate). NAEP instruments are not tests that give scores or grades, but exercises whose results are reported in terms of the percentage of each population group that was able to perform the exercise. Thus, whether to use the instrument for pass/fail decisions or labeling is a problem of policy setting.

WHAT DO WE DO WITH THE RESULTS?

It was suggested earlier in this paper that a need for the assessment of competency exists in order to identify the critical problems of education, and to make decisions in aiding the production of maximum results. The information gleaned from an assessment would ideally be used to strengthen an educational program.

The collection of demographic information can be of great importance in using the results of the assessment. Wolf (1974) reminds researchers that individuals with different experiential backgrounds can be expected to come to the testing situation differently prepared. Ahmann (1976) holds that students come to school heavily molded by the home and the society within which the home exists. There is reason to believe that the instructional needs of people will differ, considering environmental differences, motivation, and differences in capacity to learn. It is held by Bormuth (1974) that society now expects education to give priority in helping each individual develop his potential, regardless of social/environmental background. Assessing for functional literacy could assist in making decisions about people, aiding them in realizing their aspirations.

Remediation, Retention

Some researchers suggest that competency testing should begin early in the school career, possibly as early as the primary grades. The purpose of this early testing would be to identify those who are not learning the basic literacy skills, and to begin then with a program of remediation. Findley (1978) maintains that students tested early can be channeled to special teachers for remediation---thus competency testing becomes a process of screening students "in" to give ample time for attaining the basic skills levels. The importance of a clear understanding of the objectives and behaviors required to demonstrate competency is obvious at this point.

Some competency testing programs have been developed and used for both remediation and retention purposes. In the latter case, the student is retained in his grade until he can pass the competency test for that grade level. It is reported by Findley (1978) that students in one such program do not graduate if they do not pass the competency test. The deadline for passing is May 1 of their senior year. They are given as many opportunities as needed to pass. Some programs have proposed alternatives to the diploma, such as a certificate of attendance.

Fisher (1978) proposes that the competency testing program in Florida has given students new incentive to learn. Not all sources hold this same opinion. According to Findley (1978), some students think the tests are a waste of time because students often exceed the required levels.

Criticism

Competency testing programs are not without criticism. Mecklenburger (1978) points out that the programs lead to a need to deal with those who pass and fail. He questions what will happen if those who pass are still not judged competent by employers. Cawelti (1978) maintains that it is not necessarily correct to

assume that students are motivated by the threat of non-promotion or a withheld diploma. He points out the negative effects of non-promotion, and maintains that a majority of the students retained as a result of the tests will either not improve their performance or actually do worse if they are held back (p. 621). Nathan (1978) also maintains that non-promotion has no positive effect on achievement, but often has harmful social consequences.

Some practical questions are raised by Mecklenburger (1978). He reminds those considering competency testing programs of the cost in effort, time, and money for creating the tests, the time taken from instruction to give the tests, resistance from the staff, and the cost of inservice training. Cawelti (1978) asserts that competency testing merely adds one more test to an already growing battery, and is of little use if teachers do not know a better way to teach.

There is also some concern by opponents about a national program of competency testing. Some contend that a national program would cause a weakening of local decision-making capacity. Mecklenburger (1978) postulates that the tests tend to become a crutch for making decisions about who gets remedial treatment, as well as what constitutes the need for remediation. Anderson and Lesser (1978) conclude that minimum competency programs are ill-conceived, and reward poor performance on the part of schools by providing funds for personnel and materials.

WHAT ARE WE DOING NATIONALLY?

The above criticisms are somewhat unfounded where NAEP is concerned. Ahmann (1976) reports that NAEP is the largest, most informative assessment process in the U.S. The purpose of NAEP is not to point a finger at individual students, nor to make decisions. Their purpose is merely to gather information for feedback concerning what American youths know and can do. Johnson (1974) relates that there

are two basic products of the National Assessment: (1) provision of materials to be used at state and local levels (but not forced upon them), and (2) data which can be analyzed and reported in various ways. The purpose of NAEP as stated by Ahmann (1976) is to:

> " (1) obtain census-like data on the knowledges, skills, concepts, understandings, and attitudes possessed by young Americans in a variety of learning areas; and (2) to measure the growth or decline of these achievements that occur over time" (p. 10).

It is obvious that demographic information gleaned from NAEP would be of beneficial use to state and local districts.

Ten learning areas for assessment were selected by NAEP, and objectives and subobjectives were formulated for each by committees of teachers, scholars, and concerned lay people. Areas classified as basic skills were reading, writing, and mathematics. General Subject Matter areas included science, social studies, citizenship, and career and occupational development. Music, art, and literature composed the Humanities and Fine Arts areas.

Where functional literacy is concerned, NAEP conducted the Mini-Assessment (previously mentioned) of 17 year old students in 1974 and 1975, with functional literacy defined as essential knowledge skills in reading required by everyone for effective functioning in society. The MAFL included five formats: passages, graphic materials (drawings pictures, coupons), graphic materials (charts, maps, graphs), graphic materials (forms), and reference materials. The standard set was that students answering less than 75% correctly were considered functionally illiterate. The results are reported demographically (Education Commission of the States, 1975). NAEP reflects an interest only in group results. The question level was varied, setting out to assess what the most capable, average person, and least able person could do. Tyler (1974) summarizes the activities by stating:

> "National Assessment provides a means of helping the public understand the results being achieved by our educational system and the problems encountered. It furnishes a basis for intelligent examination of the situation and helps to identify the places on which to focus more effective efforts" (p. 95).

The eventual success of National Assessment, according to Johnson (1974), must be measured in terms of its impact on educational practice, content, and decision-making.

Statewide Assessments

At this writing, more than two-thirds of the individual states in the U.S. have set minimum competency requirements, with other states now considering such legislation. Each state is free to set its own requirements. Of special interest to researchers in the southern U.S. are the demographics concerning minority groups. Deutsch (1977) maintains that "minority group" is not a quantitative designation, but a status designation, referring to cultural or social disadvantage. Special norms established locally are often useful for functional literacy/competency exams. It should be remembered that functional literacy testing is not meant to be competitive, nor normatively interpreted, but the important factor is the mastery of skills needed to function in one's own society.

LOCAL EFFORTS

Grant support has been obtained by one of the local school districts to develop a functional literacy test. The major objective is to develop a functional literacy test that would more adequately measure and reflect the kinds of skills employers expect from employees in the San Antonio working area. The test will be normed and validated on San Antonio workers. The school district holds that a local functional literacy test would better measure what is needed by employers of their graduates, and thus enable curriculum specialists to design instructional programs to meet local needs. The large percentage of the local student population that is of Hispanic origin will result in

significant and relevant information being obtained from the development of a test normed on a population characterized by such a large minority with low socio-economic components. The results can be used in other south Texas cities which possess these characteristics.

Through the assistance of the Texas Employment Commission, employers will be identified, and workers (people who are functioning in society) will be made available for administration of the field test. The individuals selected for the tests will represent employees "who, in the opinion of the employer, portray traits and skills that employers feel are vital to job success" in specific occupations and trades (Grant Proposal, p. 23). Approximately 200-250 employees will be tested and complete a demographic form.

Information will be categorized according to demographic data, including job categories. Field testing of the employees will take place in the Spring of 1980. The tests will then be revised and edited, and administered to a sample of eleventh and twelfth grade students in May of the same year. The following year, the test will be given to juniors, and used as a checkpoint on minimum competency. No final decisions as to use of the scores for such concerns as pass/fail or remediation have yet been made.

Some minor preliminary testing has been completed. One hundred and three citizens in the San Antonio area participated in the testing of three forms of preliminary tests, the development of which was based on the preceeding review of literature and formats of other literacy tests already in use. Test A included 50 items, and was administered to 41 persons. Test B included 50 items (nearly parallel in form to Test A), and was administered to 35 persons. Test C included 105 items, and was administered to 27 persons.

Demographic information was solicited from each of the 103 persons taking the tests. This information included name, age, sex, occupation, highest grade completed, and local school last attended. The United States Employment Service Table of Occupational Classifications (see Appendix A) was used with two categories added--"Student" and "Unemployed" (this category included the "Housewife" classification). There were participants from all categories except "Crafts and Kindred Workers" and "Laborers and Farm Workers." Levels of education ranged from nine years of schooling to post-graduate level schooling.

Based on the review of literature and item analysis from the preliminary testing, twenty-one content areas were identified as desirable for inclusion in a functional literacy exam to be field tested with local employees. An attempt was made to present a representation as close, if not the same, as the reader is likely to encounter in his daily experiences. In developing a table of specifications for this test, four different skills were considered: locating, comprehending, solving, and the skills of the "market place." (See Appendix B for Table of Specifications.)

The skill categories are roughly defined below:

I. A locating skill simply involves finding the answer which is clearly presented or stated in the material. For example, a pictorial representation of a telephone bill may be presented. The question might be "What is the total amount of the bill?"

II. A comprehending skill requires the person tested to do more than simply locate an answer as stated, but to put together one entire idea or interpret the context or vocabulary of the passage. For example, a pictorial representation of the form used to place a classified advertisement is presented. Included on the form is the passage "Payment MUST Accompany Ad." A true/false question might read

"The newspaper will bill the advertiser when the ad appears in the paper."

III. A solving skill requires the person tested to perform some sort of calculation or computation. For example, a recipe for fudge is presented. The question might read, "If you wanted to double the recipe, how much cocoa would you need?"

IV. A "market place" skill is one the person may be required to have as a consumer, employee, or citizen. For example, a pictorial representation of the regular charge statement from a department store is presented. The question might read, "By what date must this bill be paid to avoid finance charges?" Frequently an item may fall into more than one skill category. For example, the process of making (counting) change after a sale (purchase) could be considered both a solving and market place skill.

The field testing of a revised examination based on the above description will take place in the Spring of 1980. Those tested will be adults currently functioning in the community. An item analysis and the demographic information will be reviewed. The results will be studied by the school district involved to determine the congruence of the objectives listed in the curriculum guides for the district, criterion-referenced tests used by the district, and the skills that functioning adults in the community possess. No decisions have been made as yet concerning the setting of standards or how results of a functional literacy exam will be used in the decision-making processes of the district.

Summary

Although the concept of functional literacy and minimum competency seem to be sweeping the country, there are many questions left unanswered. The fact that no clear definition of functional literacy has been established is one of the complicating factors. It does appear, however, that such terms as "everyday", "practical",

and "real-world" seem to set the atmosphere for the majority of the definitions, all of which are situational. Most tests in use tend to focus on skills required to deal with daily experiences. Also, it is generally held that the test items should probably be presented in a fashion closely resembling the appearance of the material as it is usually found.

Besides the definition of functional literacy, many other facets of the problem are left to the individual test developers. For example:

1. What behaviors constitute competency in this particular situation?
2. How will the standards be set?
3. How many opportunities should a student have to pass?
4. What do we do with those who fail?
5. How early should competency tests be administered?
6. Where do we draw the remediation line?
7. Can all the necessary survival skills be represented by a paper-and-pencil test?

These and many more questions must be answered before an effective program can be instituted.

> "Man is a symbol using animal, and is unique for that quality...The more effectively he uses those symbols, the more freedoms he acquires and the more efficiently he operates in his environment"
> (Bohla, 1969, p. 19)

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Appendix A

Occupational Classification
From Table B, U.S.E.S.
(1977)

1. Professional, Technical, and Kindred
2. Medical and Health Workers (i.e. Nurses Aides, Practical Nurse, Dental Assistants, etc.)
3. Computer Specialists (i.e. Programmers, System Analysis, etc.)
4. Social Scientists (i.e. Urban Planners, Economists, Political Scientists, etc.)
5. Education and Training (i.e. Teacher, Adult Educators, Instructor, etc.)
6. Writers, Artists, Entertainers (i.e. Authors, Dancers, Editors, Musicians, etc.)
7. Managers, Proprietors, and Administrators (i.e. Restaurant, Cafe & Bar Managers, Office Managers)
8. Sales Worker (i.e. Insurance Agents, Real Estate Agents, etc.)
9. Clerical Workers (i.e. Typists, Secretaries, etc.)
10. Crafts and Kindred Workers (i.e. Bakers, Glaziers, etc.)
11. Transportation & Public Utilities (i.e. Locomotive Engineers, Cab Drivers, etc.)
12. Operatives (Skilled and Semi-Skilled) (i.e. Drill Press Operators, Welders, etc.)
13. Service Workers (i.e. Janitors, etc.)
14. Personal Service Workers (i.e. Barbers, Elevator Operators, Bellhops, Flight Attendants, etc.)
15. Laborers & Farm Workers (i.e. Freight Handlers, Teamsters, Vehicle Washers, Warehouse labors, etc.)
16. Student
17. Unemployed

Appendix B

Table of Specifications

CONTENT	SKILL			
	locating	comprehending	solving	market place
1. Newspaper (all sections)				
2. Bills, Credit Terms, Consumer Affairs				
3. Reference Materials/Telephone Director				
4. Maps, Charts, Graphic Information				
5. Bank Statements, Check/Stubs, Sales Receipts, Change				
6. Job/Credit Application Forms				
7. Business/Personal Letters				
8. Income Tax Forms				
9. Salary (Weekly, Monthly, Annually)				
10. Business Contracts/Rental Forms				
11. Health Care/Labels (Medicines, Instructions, Recipes, Groceries)				
12. Insurance/Warranty				
13. Driver's License (Rules, Regulations)				
14. Reading Passage/Glean Facts				
15. Reading Passage/Main Idea				
16. Reading Passage/Inference				
17. Vocabulary from Context				
18. Coupon Terms & Unit Prices				
19. Measurement/Geometric Terms/ Calculations				
20. Social Security				
21. Store Catalog/Advertisements				